
50 CFR Part 17**Endangered and Threatened Wildlife and Plants; Proposal To Determine *Astragalus osterhoutii* and *Penstemon penlandii* To Be Endangered Species**

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The U.S. Fish and Wildlife Service (Service) proposes to determine two plants, *Astragalus osterhoutii* (Osterhout milk-vetch) and *Penstemon penlandii* (Penland beardtongue), to be

endangered species under the Endangered Species Act (Act) of 1973, as amended. Both species are endemic to Middle Park in Grand County, Colorado, where they grow on shale badlands. Penland beardtongue is only known from the type locality, a set of badlands between Sulphur Gulch and Troublesome Creek, about 5 miles northeast of Kremmling.

The Osterhout milk-vetch occurs in scattered populations over a 12-mile range in Middle Park: From Troublesome Creek on the east, where it occurs with the Penland beardtongue, to Muddy Creek and its tributaries on the west. Both species occur largely on Federal land administered by the Bureau of Land Management, with smaller occurrences on State and private land. Most of the Osterhout milk-vetch occurs on shale benches along Muddy Creek, the possible site of a proposed water

storage project (Muddy Creek Reservoir). The Osterhout milk-vetch would be impacted directly by dam construction and inundation, and secondarily by recreational uses and development around the proposed reservoir. The single Penland beardtongue site, 7 miles east of the dam site, is a fragile habitat vulnerable to off-road vehicle damage. Off-road vehicle damage would likely increase if the proposed reservoir is constructed. This proposal, if made final, would implement Federal protection provided by the Act for *Astragalus osterhoutii* and *Penstemon penlandii*. The Service seeks data and comments from the public on this proposal.

DATES: Comments from all interested parties must be received by September 6, 1988. Public hearing requests must be received by August 19, 1988.

ADDRESSES: Comments and materials concerning this proposal should be sent to the State Supervisor, U.S. Fish and Wildlife Service, Fish and Wildlife Enhancement, 529 25½ Road, Suite B113, Grand Junction, Colorado 81505.

Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: John Anderson at the Grand Junction address above (303/243-2778 or FTS 322-0351).

SUPPLEMENTARY INFORMATION:

Background

Astragalus osterhoutii and *Penstemon penlandii* are herbaceous perennial wildflowers endemic to Middle Park, a sagebrush basin in north-central Colorado. They are restricted to badlands of Upper Cretaceous Niobrara and Pierre Shale and of Tertiary (Miocene Troublesome Formation) siltstone sediments at 2,250–2,350 meters (7,450–7,700 feet) elevation within 6 miles to the north and east of the town of Kremmling. *Astragalus osterhoutii* Jones was described in 1923 by Marcus Jones (1923) from material collected by George Osterhout, an early Colorado botanist. Osterhout first collected it in fruit July 17, 1905 (specimen 3038), and in flower June 9, 1906 (specimen 3235), about 4 miles below "Sulphur Springs, Grand County." The holotype (at the Pomona College Herbarium, Rancho Santa Ana Botanic Garden, California) is a combination of material from these two specimens. The type locality had been interpreted to be near the town of Hot Sulphur Springs, which is 17 miles east of Kremmling (Barneby 1964, Peterson *et al.* 1981); but, despite several searches, the Osterhout milk-vetch has never been found in this area. However, the population recently located along Troublesome Creek is adjacent to Sulphur Gulch, which contains a sulphur spring (about 6 miles northeast of Kremmling), and this is likely the type locality (Barneby 1987).

Until the 1980's, *Astragalus osterhoutii* was collected only five times from two additional localities: a small population 1 mile northeast of Kremmling and the largest population along Muddy Creek 6 miles north of Kremmling. These populations were discovered by Beath in 1939 and 1940 respectively (Peterson *et al.* 1981). The population along Muddy Creek was further delineated during the preparation of the status report (Peterson *et al.* 1981) and the Rock Creek/Muddy Creek Reservoir Draft Environmental Impact Statement (Grah

and Neese 1987). Occurrences along Pass Creek and Red Dirt Creek near Hinman Reservoir, a few miles west of Muddy Creek, were also discovered during inventories for the Draft Environmental Impact Statement (Grah and Neese 1987). During graduate studies at the University of Colorado, Jeff Karron located two sites, 1 mile and 5 miles northeast of Kremmling. These sites probably represent Beath's 1939 locality and Osterhout's original "Sulphur Springs" locality in the Sulphur Gulch/Troublesome Creek vicinity, respectively.

There are an estimated 25,000 to 50,000 Osterhout milk-vetch plants, approximately 90 percent of the total for the species, in the vicinity of Muddy Creek. The remaining 10 percent of the species occurs on the eastern and western extremities of the range at Troublesome and Red Dirt Creek (a tributary of Muddy Creek), respectively.

Penstemon penlandii Weber was independently discovered in the summer of 1986 by David Johnson of Western Resource Development Company (Weber 1986) and the author while on visits to the Osterhout milk-vetch Troublesome Creek site located by Karron. While the Osterhout milk-vetch is found only along one gulch here, the Penland beardtongue population of approximately 5,000 plants extends over the whole series of badlands between Troublesome Creek and Sulphur Gulch, which are approximately one-and-a-half miles long and one-half mile wide. This is the only known site for the Penland beardtongue.

Astragalus osterhoutii and *Penstemon penlandii* are both disjunct from their nearest relatives, which occur approximately 150 miles away in southwestern Wyoming and northwestern Colorado: *Astragalus grayi* and *A. nelsonianus* (Barneby 1964), and *Penstemon paysoniorum* (Weber 1986) and *P. gibbensii* (personal observation), respectively. The proposed species may be remnants of a previous extension of northern species southward during glacial or pluvial periods. As such, they can provide clues to past floristic migrations and are scientifically valuable in the study of biogeography. *Astragalus osterhoutii* has also been the subject of evolutionary studies comparing rare and common species of *Astragalus* (Karron 1987).

Astragalus osterhoutii is a tall rush-like plant with linear leaflets and several bright green stems up to 100 centimeters (40 inches) tall. There are 12–25 large white flowers, 2.4 centimeters (1.0 inch) long, per inflorescence (flowering stalk), and

stipitate pendulous pods, 4.5 centimeters (1.8 inches) long. *Penstemon penlandii* is a short plant with linear leaves and several clumped, pubescent stems up to 25 centimeters (10.0 inches) tall. There are 5–15 bright bicolored flowers with blue lobes and a violet throat, 1.2–1.5 centimeters (0.5–0.6 inches) long, per inflorescence; the fruits are small brown capsules. Both species are characterized by clusters of showy flowers relative to the size of the plant.

The largest population of the Osterhout milk-vetch occurs on shale benches along Muddy Creek, the site of the proposed Muddy Creek Reservoir. While the lower edges of this population would be inundated by the proposed reservoir, there would be additional impacts to the remainder of the population from associated development and recreational use of the reservoir and the surrounding benches (U.S. Forest Service 1987). Changes in vegetative composition, particularly an increase in big sagebrush density due to past grazing history, may have resulted in a decrease in the size and/or density of Osterhout milk-vetch populations. The Troublesome Creek/Sulphur Gulch badlands, the habitat of both the Osterhout milk-vetch and Penland beardtongue, are a fragile habitat susceptible to damage from off-road vehicle use. Approximately two-thirds of the large Osterhout milk-vetch population along Muddy Creek is on Federal land administered by the Bureau of Land Management (BLM); the remaining one-third is mostly on private land, with two colonies on State land (although the edges of other Osterhout milk-vetch colonies may be within State highway rights-of-way). The small occurrences up Pass Creek and Red Dirt Creek near Hinman Reservoir are on private land. The small site 1 mile northeast of Kremmling is on BLM land, and the Troublesome Creek/Sulphur Gulch populations of Osterhout milk-vetch and Penland beardtongue are on BLM land and private land.

Federal action involving *Astragalus osterhoutii* began with section 12 of the Endangered Species Act of 1973 (Act), which directed the Secretary of the Smithsonian Institution to prepare a report on those plants considered to be endangered, threatened, or extinct. This report, designated as House Document No. 94–51, was presented to Congress on January 9, 1975. On July 1, 1975, the Fish and Wildlife Service (Service) published a notice of its acceptance of this report as a petition within the context of section 4(c)(2), now section 4(b)(3)(A), of the Act and of its intention thereby to review the status of those plants.

Astragalus osterhoutii was included as "endangered" in the July 1, 1975, petition. On December 15, 1980 (45 FR 82485), and September 27, 1985 (50 FR 39526), the Service published updated notices reviewing the native plants being considered for classification as threatened or endangered. *Astragalus osterhoutii* was included in these notices as a category 2 species. Category 2 comprises taxa for which the Service possesses information indicating that proposing to list them as endangered or threatened species is possibly appropriate, but for which conclusive data on biological vulnerability and threat(s) are not currently available to support listing. The present proposal is based on biological data from Peterson *et al.* (1981), Karron (1987), and Grah and Neese (1987).

Section 4(b)(3)(B) of the Endangered Species Act, as amended in 1982, requires the Secretary of the Interior to make findings on certain petitions within 1 year of their receipt. Section 2(b)(1) of the Act's amendments of 1982 further requires that all petitions pending on October 13, 1982, be treated as having been newly submitted on that date. Because the 1975 Smithsonian report was accepted as a petition, all the taxa contained in the notice, including *Astragalus osterhoutii*, were treated as being newly petitioned on October 13, 1982. On October 13, 1983, October 12, 1984, October 11, 1985, October 10, 1986, and October 9, 1987, the Service made successive 1-year findings that the petition to list *Astragalus osterhoutii* was warranted, but precluded by other listing actions of higher priority. The present proposal constitutes the next 1-year finding for this species.

Because it was discovered in 1986, after the last notice of review for plants was published in the **Federal Register** in 1985, there has been no previous Federal action involving *Penstemon penlandii*.

Summary of Factors Affecting the Species

Section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et. seq.*) and regulations (50 CFR Part 424) promulgated to implement the listing provisions of the Act set forth the procedures for adding species to the Federal lists. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to *Astragalus osterhoutii* Jones (Osterhout milk-vetch) and *Penstemon penlandii* Weber (Penland beardtongue) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* *Astragalus osterhoutii* and *Penstemon penlandii* are both naturally rare species. *Astragalus osterhoutii* has only one major population along Muddy Creek, with small scattered outlying colonies up to a distance of 6 miles away. *Penstemon penlandii* is known only from one locality at Troublesome Creek/Sulphur Gulch (which is also the easternmost site of *Astragalus osterhoutii*). The badlands on which an estimated 5,000 individuals of *Penstemon penlandii* occur are currently vulnerable to modification from off-road vehicle use because of their fragile soils, steep topography, and arid environment. There are presently dirt roads running through the badlands which would provide easy access for off-road vehicle use that would likely occur if the Muddy Creek Reservoir is constructed without measures to control off-road vehicle use. The resulting modification of the habitat could result in a curtailment of the range for the Penland beardtongue. The major population of *Astragalus osterhoutii* along Muddy Creek has an estimated 25,000 to 50,000 plants (personal observation; represents about 90 percent of the total for the species) on 132 acres and is threatened by the proposed Muddy Creek Reservoir. With construction of the high dam proposal at 7,485 feet elevation, 18 acres or 14 percent of the Muddy Creek population would be inundated. An alternative lower dam proposal at 7,475 feet would inundate 10 acres or 8 percent of the population (Bio/West 1988). Additional direct losses from reservoir construction could result from the raised water table through perennial soil saturation, and from surface disturbance due to construction activities such as road building, creation of borrow pits, and heavy equipment movement (Grah and Neese 1987). While direct inundation and bench sluffing would destroy only marginal habitat at the lower edges of the population, significant secondary impacts to the benches around the reservoir and along Pass Creek could occur with the building of recreation facilities and increased use of the area by people and off-road vehicles. These potential secondary impacts would be the same for either dam height and could cause destruction, modification, or curtailment of Osterhout milk-vetch habitat or range. Depending upon the degree of future recreational usage, secondary impacts from the Muddy Creek Reservoir may be even greater to the Osterhout milk-vetch than direct impacts from reservoir construction

(Grah and Neese 1987). In addition to the direct impacts, 80 acres, or 60 percent of the habitat of *Astragalus osterhoutii*, could be threatened by secondary impacts from recreational activities associated with the Muddy Creek Reservoir proposal (Bio/West 1988). Proposed mitigation plans to offset direct and secondary impacts of the reservoir construction and recreation include management of the habitat remaining around the reservoir to minimize effects to the milk-vetch; fencing the habitat and designing public recreational facilities to minimize the impact on the species; protection of an offsite population west of the reservoir from private recreational development; a monitoring program with possible habitat manipulation; and plant surveys for avoidance of the milk-vetch during construction.

The density of *Astragalus osterhoutii* has been observed to be lower in big sagebrush stands than in the adjacent open benchlands where it normally grows. It may be that the past grazing history has caused an increase in big sagebrush cover with a resultant canopy closure and modification of Osterhout milk-vetch habitat with loss of individuals through lowered densities of populations.

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* Taking for these purposes has not been documented. However, both plants have showy flowers and grow in accessible areas, thus both are vulnerable to collecting and vandalism.

C. *Disease or predation.* No threats are known.

D. *The inadequacy of existing regulatory mechanisms.* There are no Federal or State laws protecting *Astragalus osterhoutii* and *Penstemon penlandii*. Act would provide protection and encourage active management through the "Available Conservation Measures" discussed below.

E. *Other natural or manmade factors affecting its continued existence.* The geographically restricted range of the species increases the possibility that one severe inadvertent disturbance, either natural or human-caused, could destroy a significant portion of these species' population and habitat.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by these species in determining to propose this rule. Based on this evaluation, the preferred action is to list *Astragalus osterhoutii* and *Penstemon penlandii* as endangered. Both are restricted endemics occurring on a limited habitat,

and with only one major population each. *Astragalus osterhoutii* would be impacted directly by construction of the proposed Muddy Creek Reservoir, and secondarily by recreational uses and development around the reservoir. *Penstemon penlandii* is vulnerable to the increased off-road vehicle use that would likely occur as a result of the increased recreational activity associated with completion of the proposed reservoir. There presently exists no opportunity for protection under existing legislation (State and Federal). For reasons given below, it is not considered prudent to propose designation of critical habitat.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that to the maximum extent prudent and determinable, the Secretary designate any habitat of a species which is considered to be critical habitat at the time the species is determined to be endangered or threatened. The Service believes that designation of critical habitat is not prudent for these species at this time because no benefit to the species can be identified that would outweigh the potential threat of vandalism or collection, which might increase if detailed critical habitat maps are published. Such maps would identify areas on public and private land, thereby making it more difficult for Federal enforcement agencies to protect the species. Federal involvement in the areas where the plants occur can be identified without the designation of critical habitat. All involved parties and landowners will be notified of the location and importance of protecting these species' habitat, and such protection will be addressed through the recovery process and through section 7 procedures.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. Such actions are initiated by the Service following listing. The protection required of Federal agencies and the prohibitions against taking are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402. Section 7(a)(4) requires Federal agencies to confer informally with the Service on any action that is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat. If a species is listed subsequently, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may adversely affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

Astragalus osterhoutii and *Penstemon penlandii* occur primarily on Federal land administered by the BLM. The BLM's involvement could include section 7 consultation on the proposed Muddy Creek Reservoir, monitoring the impacts of off-road vehicle use, and studying the effects of grazing systems on vegetative composition. The Army Corps of Engineers would also be involved in any section 7 consultation for the reservoir because of the need for a 404 permit. On both Federal and private land, the Service expects that listing would elevate the awareness of these plants' status and foster efforts aimed toward their conservation.

The Act and its implementing regulations found at 50 CFR 17.61, 17.62, and 17.63 set forth a series of general trade prohibitions and exceptions that apply to all endangered plants. All trade prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.61, would apply. These prohibitions, in part, would make it illegal for any person subject to the jurisdiction of the United States to import or export, transport in interstate or foreign commerce in the course of a commercial activity, sell or offer for sale these species in interstate or foreign commerce, or to remove and reduce to possession the species from areas under Federal jurisdiction. Certain exceptions can apply to agents of the Service and State conservation agencies. The Act and 50 CFR 17.62 and 17.63 also provide for the issuance of permits to carry out otherwise prohibited activities involving endangered species under certain circumstances. With regard to

Astragalus osterhoutii and *Penstemon penlandii*, it is anticipated that few, if any, trade permits would ever be sought or issued since these species are not common in cultivation or in the wild. Requests for copies of the regulations on plants and inquiries regarding them may be addressed to the Office of Management Authority, U.S. Fish and Wildlife Service, P.O. Box 27329, Washington, DC 20038-7329 (202/343-4955).

Public Comments Solicited

The Service intends that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, any comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or other interested parties concerning any aspect of this proposal are hereby solicited. Comments particularly are sought concerning:

- (1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to *Astragalus osterhoutii* and *Penstemon penlandii*;
- (2) The location of any additional populations of these species and the reasons why any habitat should or should not be determined to be critical habitat as provided by section 4 of the Act;
- (3) Additional information concerning the range and distribution of these species; and
- (4) Current or planned activities in the subject area and their possible impacts on these species.

Final promulgation of the regulation on *Astragalus osterhoutii* and *Penstemon penlandii* will take into consideration the comments and any additional information received by the Service, and such communications may lead to adoption of a final regulation that differs from this proposal.

The Endangered Species Act provides for a public hearing on this proposal, if requested. Requests must be filed within 45 days of the date of the proposal. Such requests must be made in writing and addressed to the State Supervisor, Fish and Wildlife Enhancement, Grand Junction, Colorado (see ADDRESSES above).

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as

amended. A notice outlining the Service's reasons for this determination was published in the Federal Register on October 25, 1983 (48 FR 49244).

References Cited

Barneby, R. 1964. Atlas of North American Astragalus. Memoirs New York Botanical Garden. 13:429 and 434-436.
 Barneby, R. 1987. Letter to John Anderson, U.S. Fish and Wildlife Service, November 30, 1987. 1 p.
 Bio/West. 1988. Comparison of impacts to Osterhout's milkvetch for both reservoir elevations. Typed Table 1 p.
 Grah, O. and E. Neese. 1987. Rare plant survey of the Muddy Creek Reservoir site. Unpublished document. Bio/West, Inc., Logan, Utah. 9 p.
 Jones, M. 1923. Revision of North American species of Astragalus. Salt Lake City, Utah. p. 251, pl. 64.
 Karron, J. 1987. A comparison of the pollination biology, breeding systems, and population genetic structure of geographically restricted and widespread species of Astragalus. Unpublished Ph.D. dissertation, Department of Environmental

Population and Organismic Biology, University of Colorado, Boulder, Colorado.
 Peterson, J.S., B. Johnston, and W. Harmon. 1981. Status report on *Astragalus Osterhoutii*. State of Colorado Natural Areas Program, Denver, Colorado. 25 p.
 U.S. Forest Service. 1987. Rock Creek/Muddy Creek Reservoir Draft Environmental Impact Statement. Rocky Mountain Region, Lakewood, Colorado. 350 p.
 Weber, W. 1986. *Penstemon penlandii*. spec. nov. Scrophulariaceae from Colorado. Phytologia 60:459-461.

Author

The primary author of this proposed rule is John L. Anderson, Botanist, U.S. Fish and Wildlife Service, Grand Junction, Colorado (303/243-2778; FTS 322-0351, see ADDRESSES above).

List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife, Fish, Marine mammals, Plants (agriculture).

Proposed Regulation Promulgation

Accordingly, it is hereby proposed to amend Part 17, Subchapter B of Chapter I, Title 50 of the Code of Federal Regulations, as set forth below:

PART 17—[AMENDED]

1. The authority citation for Part 17 continues to read as follows:

Authority: Pub. L. 93-205, 87 Stat. 884; Pub. L. 94-359, 90 Stat. 911; Pub. L. 95-632, 92 Stat. 3751; Pub. L. 96-159, 93 Stat. 1225; Pub. L. 97-304, 96 Stat. 1411 (16 U.S.C. 1531 *et seq.*); Pub. L. 99-625, 100 Stat. 3500 (1986), unless otherwise noted.

2. It is proposed to amend § 17.12(h) by adding the following in alphabetical order, under the families Fabaceae and Scrophulariaceae, to the List of Endangered and Threatened Plants:

§ 17.12 Endangered and threatened plants.

* * * * *
 (h) * * *

Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Fabaceae—Pea family:						
<i>Astragalus osterhoutii</i>	Osterhout milk-vetch	U.S.A. (CO)	E		NA	NA
Scrophulariaceae—Snapdragon family:						
<i>Penstemon penlandii</i>	Penland beardtongue	U.S.A. (CO)	E		NA	NA

Dated: June 3, 1988.

Susan Recce,

Acting Assistant Secretary for Fish and Wildlife and Parks.

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